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(FILE 'HOME' ENTERED AT 11:28:06 ON 04 DEC 2002)

FILE 'REGISTRY' ENTERED AT 11:28:44 ON 04 DEC 2002  
L1 1 S 9076-63-5/RN

FILE 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPUS, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, DRUGUPDATES, .' ENTERED AT 11:29:02 ON 04 DEC 2002

FILE 'REGISTRY' ENTERED AT 11:34:20 ON 04 DEC 2002  
L2 SET SMARTSELECT ON  
SEL L1 1- CHEM : 4 TERMS  
SET SMARTSELECT OFF

FILE 'ADISALERTS, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPUS, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, DRUGU, DRUGUPDATES, .' ENTERED AT 11:34:21 ON 04 DEC 2002

L3 36 S L2

L4 27 DUP REM L3 (9 DUPLICATES REMOVED)

L5 4 S L4 AND (FLAVOBACTER? OR FLAVOBACTERIUM LUTESCENS)

L6 2 S L5 AND (DNA OR CDNA OR NUCLEOTIDE OR POLYNUCLEOTIDE OR NUCL

=> d ibib ab 1-4

L5 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
ACCESSION NUMBER: 2001:127069 BIOSIS  
DOCUMENT NUMBER: PREV200100127069  
TITLE: Cloning and characterization of pcd encoding  
DELTA'-piperideine-6-carboxylate dehydrogenase from  
**Flavobacterium lutescens** IFO3084.  
AUTHOR(S): Fujii, Tadashi (1); Narita, Takao; Agematu, Hitosi; Agata,  
Naoki; Isshiki, Kunio  
CORPORATE SOURCE: (1) Central Research Laboratories, Mercian Corp., 4-9-1,  
Johnan, Fujisawa, 251-0057: tfujii@cityfujisawa.ne.jp Japan  
SOURCE: Journal of Biochemistry (Tokyo), (Dec., 2000) Vol. 128, No.  
6, pp. 975-982. print.  
ISSN: 0021-924X.

DOCUMENT TYPE: Article

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The pcd gene from **Flavobacterium lutescens** IFO3084  
encoding DELTA'-piperideine-6-carboxylate dehydrogenase (PCD) was cloned,  
sequenced, and expressed in *Escherichia coli*. The deduced amino acid  
sequence of PCD from *F. lutescens* IFO3084 showed strong similarity to that  
from *Streptomyces clavuligerus*. The molecular mass of the recombinant PCD  
was estimated to be approximately 58,000 Da by SDS-PAGE and native PAGE,  
which indicated that the enzyme molecule is a monomer. The in vitro  
analysis of L-alpha-amino adipic acid (L-AAA) production showed that L-AAA  
is synthesized from L-lysine in two steps catalyzed by L-lysine  
6-aminotransferase (LAT) and PCD from *F. lutescens* IFO3084.

L5 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:117169 CAPLUS  
DOCUMENT NUMBER: 132:162810  
TITLE: Cloning of genes for L-lysine-2-oxoglutarate  
6-aminotransferase and **piperidine-6**  
-carboxylate dehydrogenase from  
**Flavobacterium lutescens** and use of  
the genes for production of L-homoglutamic acid  
Fujii, Tadashi; Narita, Takao; Nakata, Kuniho;  
Agematu, Hitosi; Tsunekawa, Hiroshi; Isshiki, Kunio;  
Yoshioka, Takeo

PATENT ASSIGNEE(S): Mercian Corp., Japan

SOURCE: PCT Int. Appl., 62 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent  
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008170	A1	20000217	WO 1999-JP4197	19990804
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
CA 2337981	AA	20000217	CA 1999-2337981	19990804
AU 9950642	A1	20000228	AU 1999-50642	19990804
EP 1103612	A1	20010530	EP 1999-935047	19990804
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
PRIORITY APPLN. INFO.:			JP 1998-232382	A 19980805
			JP 1999-182362	A 19990628
			WO 1999-J9	990419W 19990804
			WO 1999-JP4197	W 19990804

AB The genes encoding L-lysine-2-oxoglutarate 6-aminotransferase (LAT) and piperidine-6-carboxylate (P6C) dehydrogenase are isolated from *Flavobacterium lutescens* strain IFO 3084 and used for the transformation of *F. lutescens* to increase the yield of L-homoglutamic acid. LAT and P6C dehydrogenase are comprised of 491 and 510 amino acids, resp. Transformation of *F. lutescens* with the gene for LAT or P6C dehydrogenase increased the yield of L-homoglutamic acid by 1.5-2 folds.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 4 DGENE (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: AAY80510 Protein DGENE

TITLE: L-homoglutamic acid production gene, isolated from *Flavobacterium lutescens* is used for production of transformants with enhanced conversion of lysine to L-homoglutamic acid. -

INVENTOR: Fujii T; Narita T; Nakata K; Agematu H; Tsunekawa H; Isshiki K; Yoshioka T

PATENT ASSIGNEE: (SAOC) MERCIAN CORP.

PATENT INFO: WO 2000008170 A1 20000217 62p

APPLICATION INFO: WO 1999-JP4197 19990804

PRIORITY INFO: JP 1998-232382 19980805

JP 1999-182362 19990628

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

OTHER SOURCE: 2000-195579 [17]

AB This is the sequence of the **piperidine-6-carboxylate dehydrogenase** protein from *Flavobacterium lutescens* which is involved in the production of L-homoglutamic acid from L-lysine. The corresponding gene is capable of restoring L-homoglutamic acid production in mutants of *F. lutescens* lacking this ability. L-homoglutamic acid is used as a synthetic intermediate for drug synthesis including methotrexate.

L5 ANSWER 4 OF 4 DGENE (C) 2002 THOMSON DERWENT

ACCESSION NUMBER: AAZ91051 DNA DGENE

TITLE: L-homoglutamic acid production gene, isolated from *Flavobacterium lutescens* is used for production of transformants with enhanced conversion of lysine to L-homoglutamic acid. -

INVENTOR: Fujii T; Narita T; Nakata K; Agematu H; Tsunekawa H; Isshiki K; Yoshioka T

PATENT ASSIGNEE: (SAOC) MERCIAN CORP.

PATENT INFO: WO 2000008170 A1 20000217 62p

APPLICATION INFO: WO 1999-JP4197 19990804

PRIORITY INFO: JP 1998-232382 19980805

JP 1999-182362 19990628

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

OTHER SOURCE: 2000-195579 [17]

AB This sequence represents the gene encoding the **Flavobacterium lutescens piperidine-6-carboxylate dehydrogenase** gene which is involved in the production of L-homoglutamic acid from L-lysine. The gene is capable of restoring L-homoglutamic acid production in mutants of *F. lutescens* lacking this ability. L-homoglutamic acid is used as a synthetic intermediate for drug synthesis including methotrexate.

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 AUTHOR(S): Fujii, Tadashi (1); Narita, Takao; Agematu, Hitosi; Agata,  
 Naoki; Isshiki, Kunio  
 CORPORATE SOURCE: (1) Central Research Laboratories, Mercian Corp., 4-9-1,  
 Johnan, Fujisawa, 251-0057: tfujii@cityfujisawa.ne.jp Japan  
 SOURCE: Journal of Biochemistry (Tokyo), (Dec., 2000) Vol. 128, No.  
 6, pp. 975-982. print.  
 ISSN: 0021-924X.  
 DOCUMENT TYPE: Article  
 LANGUAGE: English  
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L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS  
 ACCESSION NUMBER: 2000:117169 CAPLUS  
 DOCUMENT NUMBER: 132:162810  
 TITLE: Cloning of genes for L-lysine-2-oxoglutarate 6-aminotransferase and **piperidine-6-carboxylate dehydrogenase** from **Flavobacterium lutescens** and use of the genes for production of L-homoglutamic acid  
 INVENTOR(S): Fujii, Tadashi; Narita, Takao; Nakata, Kuniho; Agematu, Hitosi; Tsunekawa, Hiroshi; Isshiki, Kunio; Yoshioka, Takeo  
 PATENT ASSIGNEE(S): Mercian Corp., Japan  
 SOURCE: PCT Int. Appl., 62 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008170	A1	20000217	WO 1999-JP4197	19990804
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2337981	AA	20000217	CA 1999-2337981	19990804
AU 9950642	A1	20000228	AU 1999-50642	19990804
EP 1103612	A1	20010530	EP 1999-935047	19990804
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: JP 1998-232382 A 19980805  
 JP 1999-182362 A 19990628  
 WO 1999-J9 990419W 19990804  
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